



Storm Water Management Program

Purpose And Background

The City of Greenwood, Missouri seeks to protect properties and aquatic resources from damage caused by pollutants carried in stormwater. To that end, the City has created this Storm Water Management Program (SWMP) designed to meet, at a minimum, the requirements of the National Pollutant Discharge Elimination System (NPDES) and the requirements of the Missouri State Operating Permit ("MSOP", MO-R004000) for Municipal Separate Storm Sewer Systems (MS4s).

The NPDES is a Federal permit program authorized by the Clean Water Act of 1972 and the 1987 Water Quality Act. The program seeks to control non-point source pollution carried by storm water runoff. Storm water runoff significantly impacts water quality by depositing sediment and pollutants into waterways. While the EPA has created programs under the Clean Water Act, implementation of these programs is managed by state environmental agencies. In Missouri, permitting is under the control of the Department of Natural Resources (MDNR)

Greenwood is classified as a MS4 (Municipal Separate Storm Sewer System). As a MS4 community it must develop, implement, and enforce a stormwater management program (SWMP) to reduce the discharge of pollutants to the "maximum extent practicable". Maximum Extent Practicable (MEP) is a technology-based standard established by Congress in the Clean Water Act. Since no precise definition of MEP exists, it allows for flexibility on the part of MS4 operators as they develop their programs.

Over the years, cities, counties and states have regarded storm water management almost exclusively as a "quantity" issue. Greenwood is no exception and has implemented measures to control and manage increased runoff and flooding due to development. This plan will seek to address issues of storm water quality, while maintaining measures designed to address quantity. In many cases, these two issues may be addressed concurrently or as part of combined system and the City encourages innovative solutions that will meet the goals of this program while still promoting reasonable development.

Affects Of Development On Stormwater Quality

Pervious and impervious surfaces in the urbanizing landscape collect pollutants such as automobile oil, grease, brake pad dust, sediment from construction sites, bacteria from animal waste, excess lawn care fertilizers and pesticides, as well as atmospheric

deposition of phosphorus, nitrogen, mercury and other airborne pollutants. Rainfall washes these surfaces and the runoff can carry high concentrations of these pollutants to nearby drinking water supplies, waterways and properties. Pollution washed from the land surface by rainfall is called nonpoint source pollution. The most critical point in this cycle is termed the "first flush" which is the time during which a majority of accumulated contaminants is washed into the waterways. Treating this first flush then is the most important step a MS4 can perform. The rainfall event deemed to create the first flush is referred to as the "water quality event" and has been determined to be the first 1.37 inches of any storm in the Kansas City Metro area.

Program Overview

This SWMP is implemented in compliance with the Missouri Clean Water Law, (Chapter 644 RSMo. as amended) and the Federal Water Pollution control Act (Public Law 92-500, 92nd Congress) as amended. These statutes specifically set forth regulations regarding land development activities to prevent water pollution, stream channel erosion, depletion of groundwater resources and more frequent localized flooding to protect property value and natural resources. SWMPs operated according to the law are intended to address these adverse impacts and comprehensively manage the quality of and quantity of stormwater runoff on a watershed-wide basis.

This document shall be reviewed annually in conjunction with preparation of the annual report. This program may be changed during the life of the permit according to the rules of the State General Operating Permit.

Procedures and Requirements

The City currently employs multiple measures that enhance stormwater quality. Existing ordinances and practices, including but not limited to the Erosion and Sediment Control (§410.180), Littering (§210.120), and Disposal of Solid Waste (§225.040), ordinances have been implemented and are being enforced. In addition to these measures the City's SWMP will address the following as part of six (6) minimum control measures:

1) Public Education and Outreach on Storm Water Impacts

The City will develop a public education and outreach program which goal shall be to educate the public about storm water, the impacts of pollution and steps they can take to reduce the pollution. The primary target pollutants the City's program intends to address are litter, sediment*, on-site sewage disposal system effluent, lawn chemicals and fertilizers. The City intends to perform the following in order to meet this goal:

- a) Public meetings
- b) School presentations
- c) Notices on the City cable television
- d) Informational and news items in an area newspaper
- e) Printed educational and informational materials for distribution

The City also intends to investigate the following for feasibility:

- a) Electronic educational and informational materials on a City website

- b) Participation in the Mid-America Regional Council Regional (MARC) Water Quality Program Public Education Plan

*when
how*

The minimum measurable goals the City will meet during the current permit period are:

- a) Distribution of printed materials and/ or public discussion during at least six public meeting annually
- b) Hold at least one school presentation pertaining to storm water quality per school year at the local elementary school
- c) Place news, notices or educational information pertaining to storm water quality on the City cable television channel
- d) Place news, notices or educational information pertaining to storm water quality in a local newspaper
- e) Maintain printed educational and informational materials at City offices

*more
specific
target dates*

The City believes these five measures will reach more than 50 percent of the City's approximate 4000 population.

These measurable goals meet the minimum requirements of the State General Operating Permit regulations, were deemed as achievable during the current permit period and have proven effective in other Kansas City Metro area cities. The target audience for these includes the general citizenry, elementary school-aged children, land developers and contractors. The Director of Public Works will be responsible for the overall management and implementation of this measure and will maintain records of the five measurable goals including the number of printed materials distributed, the number of presentations and public hearing held and the number of news stories, notices or educational spots in the local media.

*Big Creek, currently on the 303d list of impaired water bodies, will be a primary area of focus.

2) Public Involvement / Participation

The City will solicit involvement by the general public and civic and private organizations to assist in or perform the following:

- a) Stream cleanup or monitoring campaigns
- b) Stenciling informational markings on storm sewer inlets
- c) Voluntary creation and implementation of BMPs on existing developed sites
- d) Provide input in public hearings or through written or verbal communication related to storm water quality issues

The minimum measurable goals the City will meet during the current permit period are:

- a) Solicit local citizens or civic groups, though media or other avenues, to perform an annual stream cleanup campaign for at least one of the City's three major open-channel drainageways
- b) Solicit local citizens or civic groups, though media or other avenues, to stencil informational markings on storm sewer inlets
- c) Solicit local property and business owners, though media or other avenues, to voluntarily create BMPs, such as rain gardens, native plantings and reduces vegetation fertilization on existing sites

- d) Solicit input from the general citizenry, land developers and contractors and local business and land owners, through media or other avenues, for identification and improvement of storm water quality related issues

These measurable goals meet the minimum requirements of the State General Operating Permit regulations, were deemed as achievable during the current permit period and have proven effective in other Kansas City metro area cities. The target audience for this measure includes the general citizenry, middle and high school-aged children, land developers and contractors and local business and land owners. The City is small and all ethnic and economic groups should be adequately engaged by the listed goals. The Director of Public Works will be responsible for the overall management and implementation of this measure and will maintain records of the four measurable goals including the type and number of solicitations performed and the public responses.

3) Illicit Discharge Detection and Elimination

The City will develop and implement a program to detect and eliminate illicit discharges (as defined in 10 CSR 20-6.200) into the City's waterways and stormwater conveyances. This program will consist, at a minimum, of the following items:

- a) Complete a GIS storm sewer system map showing the location of all outlets and the names and locations of all waters of the State that receive discharges from those outlets
- b) Review and modify, if necessary, existing ordinance(s) to effectively prohibit non-storm water discharges into the storm sewer system or receiving waters
- c) Develop a plan to detect and address non-storm water discharges to the storm sewer system including:
 - 1) Create procedures for locating priority areas
 - 2) Create procedures for tracing sources of illicit discharges
 - 3) Create procedures for eliminating illicit discharges
 - 4) Create procedures for program evaluation and assessment
- d) Inform public employees, businesses and the general public of hazards associated with illegal discharges and improper disposal of wastes

The minimum measurable goals the City will meet during the current permit period are:

- a) Complete GIS mapping of the City's storm sewer system outfalls
- b) Create or modify and implement an ordinance(s) to prohibit non-storm water discharges into the storm sewer system or receiving waters
- c) Develop a plan to detect and address illicit discharges
- d) Provide illicit discharge educational information to public employees, businesses and the general public

The City is aware that Lake Winnebago currently has Total Maximum Daily Load (TMDL) criteria for Mercury (Hg). This pollutant, which primarily originates through manufacturing or power generating processes, is believed to be carried high in the atmosphere by wind from areas far to the south of Greenwood, eventually settling out onto the land. It is then carried by stormwater runoff into the Lake. The City

understands that due to difficulties both in identifying and controlling the source of the pollutant, the State and Federal Governments are currently attempting to address the situation without City participation.

These measurable goals meet the minimum requirements of the State General Operating Permit regulations, were deemed as achievable during the current permit period. The Director of Public Works will be responsible for the overall management and implementation of this measure and will maintain records of the four measurable goals.

4) Construction Site Storm Water Runoff Control

The City has created and adopted an Erosion and Sediment Control ordinance and will continue to refine and enforce this existing ordinance. The existing ordinance, adopted as §410.180 of the Greenwood City Code (GCC), meets or exceeds many of the requirements of the General Permit. The following items will be addressed and incorporated either by ordinance, resolution or policy:

- a) Requirements for construction site operators to control on-site waste such as discarded building materials, concrete truck washout, chemicals, litter and sanitary waste
- b) Procedures for site plan review which incorporate consideration of potential water quality impacts
- c) Procedures for receipt and consideration of information submitted by the public
- d) Procedures for site inspection

The minimum measurable goals the City will meet during the current permit period are:

- a) Review and modify, if necessary, the existing Erosion and Sediment Control and other existing ordinances to insure specific requirements for on-site construction site waste control meet the requirements of the MSOP
- b) Develop and implement a written policy for site plan review which incorporates consideration of potential water quality impacts
- c) Develop and implement a written policy for receipt and consideration of information submitted by the public
- d) Review and modify, if necessary, the City's requirements for submission and enforcement of developers' Stormwater Pollution Prevention Plans (SWPPP)

These measurable goals meet the minimum requirements of the State General Operating Permit regulations, were deemed as achievable during the current permit period. The Director of Public Works will be responsible for the overall management and implementation of this measure and will maintain records of the four measurable goals.

5) Post-Construction Storm Water Management in New Development and Redevelopment

The City of Greenwood will work create a comprehensive plan to minimize stormwater pollutants in newly developed and redeveloped areas. The City expects development of

new housing as well redevelopment in older areas of the City, primarily along Highway 150, with commercial uses. The plan will include:

- a) Specific requirements related to site planning and post-construction BMPs
- b) Policies or ordinances that encourage development in manners such that pollution factors are limited
- c) Education components for developers and the public about storm water friendly design

The minimum measurable goals the City will meet during the current permit period are:

- a) Develop, implement and enforce an ordinance for the maintenance, operation and status reporting requirements for BMPs
- b) Develop education programs related to storm water friendly development

The City also intends to investigate the following for feasibility:

- a) Adoption of the APWA / MARC BMP Manual by ordinance or resolution
- b) Development of policies or ordinances to promote storm water friendly development such as low impact development (LID)

These measurable goals meet the minimum requirements of the State General Operating Permit regulations and were deemed as achievable during the current permit period. The Director of Public Works will be responsible for the overall management and implementation of this measure and will maintain records of the two measurable goals.

6) Pollution Prevention / Good Housekeeping for Municipal Operations

The City will implement pollution prevention and good housekeeping measures for municipal operations. The City will:

Develop and implement pollution prevention and good housekeeping measures for municipal operations policy manual. The manual will contain at a minimum:

- a) Documentation of the City's municipal operations, facilities and equipment
- b) Maintenance procedures, schedules and inspections designed to prevent or reduce stormwater pollution as a result of normal municipal operations
- c) Continuing educational requirements for staff
- d) Record keeping requirements

Develop and implement a drainage ditch cleaning and clearing management schedule.

Seek Board of Aldermen approval for an annual street sweeping program.

The minimum measurable goals the City will meet during the current permit period are:

- a) Creation and implementation of a pollution prevention and good housekeeping measures for municipal operations policy manual
- b) Development and implementation of a drainage ditch cleaning and clearing management schedule

- c) Seeking Board of Aldermen approval and funding for an annual street sweeping program
- d) Commencement of a staff training program

These measurable goals meet the minimum requirements of the State General Operating Permit regulations and were deemed as achievable during the current permit period. The Director of Public Works will be responsible for the overall management and implementation of this measure and will maintain records of the four measurable goals.

NPDES PHASE II PROGRAM COMPLIANCE SUMMARY

General Permit Requirements:

1. Required to develop, implement and enforce a program to:
 - Reduce discharge of pollutants to the maximum extent practicable (MEP)
 - Protect water quality
 - Satisfy the appropriate water quality requirements of the Clean Water Act.

2. Must submit an NOI or individual permit application and identify the following elements for each minimum control measure:
 - Best Management Practices
 - Measurable goals for each BMP
 - Timing and frequency of the actions
 - Responsible persons

Six Minimum Control Measures

1. Public Education and Outreach
2. Public Involvement /Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Runoff Control
5. Post-Construction Stormwater Management in New and Redevelopment
6. Pollution Prevention/Good Housekeeping for Municipal Operations.

Permit Requirements

Must evaluate program and submit reports:

1. Annual reports in the first five year permit term, in years 2 and 4 in subsequent five year terms
2. Monitoring is not specifically required under EPA's rule, but may be required in permits
3. Also need to keep relevant records for at least 3 years.

Reports must include:

1. Status of compliance with permit conditions
 - Assessment of BMPs and measurable goals
2. Results of any info collected and analyzed, including monitoring data
3. A summary of the stormwater activities planned for the next reporting cycle
4. A change in any measurable goals or BMPs
5. Notice of relying on another entity, if applicable

1. Public Education and Outreach

Purpose:

1. Communicate impacts of storm sewer discharges and steps to reduce stormwater pollution
2. Use public education program or equivalent outreach activities
3. Establish specific activities, schedule, and goals
4. Report annually

Must:

1. Distribute educational materials to the community, or
2. Conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff.

Recommend:

1. May use materials provided by others
2. Inform public on how to get involved in stormwater program activities
3. Tailor program to target specific groups of entities, particularly those likely to have significant stormwater impacts
4. Address the viewpoints and concerns of minority and disadvantaged communities

BMPs

1. Develop and distribute brochures on proper septic system maintenance
2. Develop alternative information sources such as web sites, bumper stickers and cable television spots
3. Storm drain stenciling
4. School presentations

Measurable Goals:

1. Distributing a specified number of brochures or utility bill inserts addressing stormwater management
2. Participating in a specified number of community meetings
3. Issuing a specified number of press releases on stormwater management topics

Evaluating your public outreach efforts:

1. Tracking media coverage
2. Tracking requests for publications, speakers, and information about stormwater management that come into your agency
3. Tracking responses to "how did you hear about our program?" inquiries
4. Tracking the number of volunteers or groups/citizens involved in your clean up programs or drain labeling programs
5. Tracking changes in enforcement patterns
6. Surveying residents and businesses to document changes in levels of awareness and/or behavior
7. Collecting anecdotal and informal information from staff, stakeholder groups, and your own interaction with representatives from the community.

2. Public Participation and Involvement

Purpose:

1. Taps community resources
2. Network to other programs
3. Reduces opposition
4. Speeds implementation
5. Community involvement is key to success

Must:

1. Comply with State, Tribal and local public notice requirements

Recommend:

1. Provide opportunities for the public to participate, such as:
 - Local stormwater management panel
 - Volunteer monitoring

BMPs

1. Set up a local stormwater management panel which includes members of the public
2. Establish volunteer water quality monitoring program
3. Stream Clean Up Days

4. Storm drain stenciling
5. Use volunteer groups to find/identify illicit discharges
6. Set up a hotline for water quality complaints
7. Stakeholder Programs

Measurable Goals:

1. Conducting a specified number of meetings with a citizen advisory committee
2. Soliciting a specified number of volunteers to participate in stormwater management related activities
3. Stenciling a specified number of storm drains
4. Receiving a certain number of calls to an illicit discharge hotline.

3. Illicit Discharge Detection and Elimination

What are illicit discharges?

1. Sanitary wastewater
2. Effluent from septic tanks
3. Improper auto and household toxic disposal
4. Any non-stormwater discharge to the storm drainage system or receiving waters

Must:

1. Develop a sewer system map of all outfalls and the names of all receiving waters
2. Prohibit non-stormwater discharges, through an ordinance or other means, and implement appropriate enforcement procedures
3. Implement a plan to detect and address non-stormwater discharges
4. Inform public of hazards associated with illegal discharges and improper disposal of waste

BMPs

1. Collect all existing information on outfall locations (e.g., city records, drainage maps, storm drain maps), and then conduct field surveys to verify locations
2. Coordinate volunteers for locating outfalls or stenciling storm drains
3. Locate problem areas for detailed screening using methods such as public complaints; visual screening; water sampling from manholes and outfalls during dry weather
4. Determine the source of the problems using methods such as:
 - Dye-testing buildings in problem areas;
 - Dye- or smoke-testing buildings at the time of sale;
 - Tracing the discharge upstream in the storm sewer;
 - Employing a certification program that shows that buildings have been checked for illicit connections;
 - Implementing an inspection program of existing septic systems; and
 - Using video to inspect the storm sewers

Measurable Goals:

1. Surveying municipal rights-of-way a specified number of times over a specified time period
2. Performing dry weather inspections a specified number of times with testing of flows found at outfalls
3. Completing a percentage of system inventory each year.

4. Construction Site Stormwater Runoff Control

Purpose:

Reduce pollutants in the run-off from construction sites including sediment, oil & grease, pesticides, concrete truck washout and construction debris.

Must:

1. Develop a program to reduce pollutants from construction activities that disturb more than 1 acre.
2. Use an ordinance, or other regulatory means, with penalties, that requires appropriate erosion and sediment controls and requirement to control waste
3. Have procedures for:
 - Site plan review
 - Site inspection & enforcement
 - Public input

Recommend:

1. Procedures for site plan review should include review of individual pre-construction site plans
2. Procedures for site inspections and enforcement could include steps to identify priority sites based on the nature of the site, topography, soil characteristics, and receiving water quality
3. Provide appropriate education and training measures for construction site operators

BMPs

1. Develop or modify an ordinance that requires controls for polluted runoff from construction sites that disturb more than one acre
2. Develop procedures for site plan reviews and inspections
3. Provide guidance or training to local construction operators on appropriate erosion and sediment controls

Measurable Goals:

1. Conducting a specified number of training programs for non-governmental inspectors
2. Conducting a specified number of inspections per year (% of construction permits).

5. Post-Construction Stormwater Management in New Development and Redevelopment

Purpose:

Reduce pollutants in the run-off from post-construction sites including oil & grease, pesticides, heavy metals and nutrients. Must address the quantity and velocity issues related to stream bank erosion and scouring.

Must:

1. Develop a program, using an ordinance or other regulatory means, to address runoff from new development and redevelopment projects that disturb more than 1 acre
2. Implement strategies with a combination of structural and/or non-structural BMPs
3. Ensure adequate long-term operation and maintenance (O&M) of BMPs

Recommend:

1. The BMPs chosen should:
 - Be appropriate for the community
 - Minimize water quality impacts
 - Attempt to maintain pre-development runoff conditions
2. Participate in watershed planning efforts
3. Assess existing ordinances, policies, and programs that address stormwater runoff quality

4. Provide opportunities for public participation

Non-Structural BMPs

1. Address post-construction impacts through a planning approach that considers water quality:
 - Master plans
 - Watershed plans
 - Low impact development
 - Smart growth
2. Establish site-based local controls such as buffer strip and riparian zone preservation, minimization of disturbance and imperviousness, and maximization of open space.

Structural BMPs

1. Incorporate stormwater storage into your system:
 - Wet ponds,
 - Dry basins, or
 - Bioretention and rain gardens

Measurable Goals:

1. Conducting a specified number of inspections per year (% of occupancy permits)
2. Establishing or updating design standards.

6. Pollution Prevention/Good Housekeeping for Municipal Operations

Purpose:

Require municipalities to examine and alter operations to help reduce the amount and type of pollutants on streets, parking lots, open spaces, storage and vehicle maintenance areas that is discharged into local waterways.

Must:

1. Develop an O&M program to prevent or reduce pollutant runoff from operations
2. Include employee training to prevent and reduce stormwater pollution from activities such as the maintenance of park and open space, buildings, and stormwater systems

Recommend:

1. Maintenance activities and schedules, and long-term inspection procedures
2. Controls on the discharge of pollutants from streets, salt/sand storage areas, waste transfer stations, etc.
3. Procedures for disposing of waste from the MS4
4. Ensure new flood management projects assess impacts on water quality

BMPs

1. Establish maintenance activities, maintenance schedules, and long-term inspection procedures for structural and non-structural controls
2. Establish procedures for the proper disposal of waste removed from the separate storm sewer systems, including dredge spoil, accumulated sediments, floatables, and other debris
3. Develop programs that promote recycling, minimize pesticide use and protect salt/sand storage.

Measurable Goals:

1. Conduct a specified number of training programs for municipal operations staff per year
2. Sweep a specified number of miles of road per year
3. Vacuum or otherwise clean each storm drain outlet a specified number of times per year
4. Inspect and clean a specified number of ditches, regional ponds, and municipal facilities
5. Inspecting or repairing a specified number of drain inlets per year.

Phase II Minimum Control Measures Implementation

This section outlines the basic implementation and assessment activities that are associated with the Phase II 6 Minimum Control Measures:

The following implementation outline provides a generalized idea of how to construct a municipal NPDES Stormwater Phase II Implementation and Compliance Program. Since many of the requirements of each of the 6 Minimum Control Measures cross the boundaries of the other measures, building a program individually around each measure can result in overlapping of responsibilities and duplicate efforts and expenditures. Thus, the following plan outline provides a blending of the 6 Minimum Control Measures requirements and goals across various facets of the Implementation and Compliance Program, and is broken down by stages of the plan's implementation rather than by each of the measures.

I. Administrative Requirements

A. The Phase II regulations specify requirements for:

1. Designating an entity responsible for implementation
2. Seeking public input into the stormwater management planning process and communicating with the public about stormwater management issues
3. Defining measurable goals for each of the six required minimum control measures
4. Establishing an implementation schedule that includes frequency of actions
5. Establishing appropriate evaluation, record keeping, and reporting procedures

II. Planning

A. Comprehensive Plan: Stormwater program comprehensive planning is a process of developing a unified vision for your community that, at a minimum, identifies and addresses:

1. Goals-most likely will include complying with regulations and meeting other local needs such as flood protection.
2. Policies for managing your stormwater-such as determining who is responsible for maintaining private stormwater facilities.
3. Programs needed to accomplish your goals-establish specific duties associated with the program elements
4. Costs to put these programs in place
5. Implementation strategy-will need to consider a number of possible funding mechanisms and how to obtain the necessary support from the community

The comprehensive planning process can help to ensure that your stormwater management program interacts appropriately with other local and regional philosophies and programs.

B. Watershed or Drainage Basin Plan: Drainage basin or watershed planning is a process that uses data gathering and technical analysis methods to:

1. Characterize the environmental, hydrologic, and hydraulic features of a surface water drainage area and its water bodies
2. Define problems with those features
3. Analyze solutions to those problems
4. Recommend a preferred set of solutions
5. Determine the costs to implement the recommended solutions

Drainage basin or watershed planning should determine needed capital projects, special regulations, maintenance, monitoring, and costs.

III. Capital Projects:

Most stormwater management capital improvement programs are driven by local interest in solving flooding, water quality, and sensitive aquatic resource problems. Some capital improvements may include:

1. Detention facilities
2. Water quality treatment facilities
3. Conveyance systems
4. Pumping stations
5. Dikes or berms
6. Culverts
7. Fish passage structures
8. Stream channel habitat restoration projects
9. Neighborhood drainage projects
10. Retrofits of existing facilities

IV. Public Education and Involvement

An effective public education and involvement program will enable you to met the following objectives:

1. Satisfy the Phase II minimum requirements for public education and involvement
2. Improve water quality by modifying community awareness and behavior
3. Obtain the necessary community support to fund your program

V. Building Public Support

Effective Strategies to help you involve citizens in decision making, develop public outreach programs that work, and grow support for the stormwater management program within your organization, including:

1. **Defining your target audiences**
 - a. **Internal Audiences**
 - Elected officials
 - Other decision-makers
 - Department heads
 - Economic development agencies
 - Public works and planning department staff
 - Inspectors, operations and maintenance personnel
 - Utility billing staff
 - b. **External Audiences**
 - Builders/developers
 - Private facility owners
 - Environmental activists
 - Taxpayer groups
 - Industries that may depend on surface water quality
 - Entities who will be most impacted by your selected funding approach
 - School-aged children/educators
 - General public
 - Neighborhood leaders
2. **Understanding the importance of stakeholder involvement**
 - a. **Procedural:** Procedural programs fulfill federal, state, or local requirements for public involvement through such procedural steps as mandatory legal notices, public meetings, and hearings. The public notices and meetings are designed to explain what will happen unless anyone can show cause why it should not.
 - b. **Substantive:** Substantive stakeholder involvement efforts provide for open dialogue and exchanges of information, expertise, and concerns during planning and implementation processes.

c. Additional benefits of stakeholder involvement include:

- People with different areas of expertise and philosophies contribute ideas, resulting in well thought-out stormwater management programs and better solutions
- Elected officials are more likely to support programs that have widespread public support or stakeholder buy-in
- Project planners and decision-makers have the opportunity to think “outside the box”
- Using “citizen experts” helps communities implement change, even in the face of ever-constricting budgets
- The process of working together helps different groups understand each other’s cultures, philosophies, and attitudes, resulting in a more cohesive community
- Acceptable funding approaches require equity, which can only be accomplished if stakeholders are represented in the planning process
- Citizens are increasingly demanding to be involved and informed. They have greater knowledge, and expect to be informed of the decisions being made
- Interested stakeholders can often help sustain the momentum of a project. A “closed” project, on the other hand, typically relies on the enthusiasm of one or more project champions, who are likely to be overburdened government officials or municipal employees.
- Stormwater management program approval and implementation is facilitated when stakeholder comments are heard and responded to early in the process.

3. Selecting a stakeholder involvement approach**a. Some key steps to more effective committees**

- Establish a mission statement
- Determine what guidelines or requirements will affect the committee
- Define resource needs
- Develop a stakeholder assessment
- Develop a recruitment plan
- Develop committee guidelines
- Develop communications guidelines
- Establish evaluation/reporting procedures

b. Strategies for collecting information

- Surveys
- Focus groups

4. Developing effective outreach and education programs**a. Goals to develop public education strategies**

- Increase general awareness of stormwater and the importance of stormwater management
- Inform the public about the specifics of your stormwater management plans, policies, and systems
- Increase awareness of things that residents and businesses can do to improve water quality and volunteer their resources
- Common outreach strategies could apply to either element of your public information plan

b. Sample public information strategies

- Media relations
- Advertising/promotion
- Special events and public forums
- Direct mail
- Education Programs (Schools)

- Direct communication
- c. Three main types of messages**
 - Rational
 - Emotional
 - Moral
- 5. Evaluating your public outreach efforts**
 - a. Tracking media coverage**
 - b. Tracking requests for publications, speakers, and information about stormwater management that come into your agency**
 - c. Tracking responses to “how did you hear about our program?” inquiries**
 - d. Tracking the number of volunteers or groups/citizens involved in your clean up programs or drain labeling programs**
 - e. Tracking changes in enforcement patterns**
 - f. Surveying residents and businesses to document changes in levels of awareness and/or behavior**
 - g. Collecting anecdotal and informal information from staff, stakeholder groups, and your own interaction with representatives from the community**

VI. Institutional Framework

Internal or External

- 1. Internal Programs**
 - Develop a stormwater department
 - Giving responsibility to a multi-functional department, such as the public works department
 - Sharing responsibility for implementing the program among several departments within your community
 - Creating a stormwater district
- 2. Stormwater Department**
 - Staff be dedicated solely to stormwater management activities
- 3. Department of Public Works**
 - Does not have the resources to establish a new department, such as a stormwater department
 - Already has a public works department that handles streets and drainage, engineering, and code enforcement activities
 - Can perform stormwater management functions in the most efficient manner by using existing and possibly additional resources within the department
 - Does not have access to a regional entity that would implement a comprehensive stormwater management program on your behalf
- 4. Intra-Departmental Cooperation**
 - a. Department of Public Works**
 - Streets and roads maintenance
 - Municipal good housekeeping measures
 - Storm sewer system maintenance
 - Street flooding issues
 - Household hazardous waste program
 - b. Sanitary Sewer Department**
 - Detect illicit discharges and connections
 - c. Engineering**
 - Inspection/design permitting

- Erosion and sediment controls
- Construction contract administration
- Code enforcement
- d. Department of Education**
 - Public education activities for school-age children
- e. Department of Parks and Recreation**
 - Mowing detention ponds
- f. Fire Department/Police Department**
 - Illicit discharge detection
 - Spill containment
- g. Other municipal departments**
 - Planning
 - Building Inspection
 - Accounting
 - Legal
 - Administrative
- h. Neighborhood organizations**
 - Public outreach/education activities
 - Citizen involvement

VII. Establishing Measurable Goals

A. Public Education and Outreach

1. Distributing a specified number of brochures or utility bill inserts addressing stormwater management
2. Participating in a specified number of community meetings
3. Issuing a specified number of press releases on stormwater management topics
4. Providing contractors with technical assistance

B. Public Involvement/Participation

1. Conducting a specified number of meetings with a citizen advisory committee
2. Soliciting a specified number of volunteers to participate in stormwater management related activities
3. Stenciling a specified number of storm drains
4. Receiving a certain number of calls to an illicit discharge hotline

C. Illicit Discharge Detection and Elimination

1. Surveying municipal rights-of-way a specified number of times over a specified time period
2. Performing dry weather inspections a specified number of times with testing of flows found at outfalls
3. Completing a percentage of system inventory each year

D. Construction Site Runoff Control

1. Conducting a specified number of training programs for non-governmental inspectors
2. Conducting a specified number of inspections per year (% of construction permits)

E. Post Construction Stormwater Management Control

1. Conducting a specified number of inspections per year (% of occupancy permits)
2. Establishing or updating design standards

F. Pollution Prevention/Good Housekeeping for Municipal Operations

1. Conduct a specified number of training programs for municipal operations staff per year

2. Sweep a specified number of miles of road per year
3. Vacuum each storm drain outlet a specified number of times per year
4. Inspect and clean a specified number of gulches, regional ponds, and municipal facilities
5. Inspecting or repairing a specified number of drain inlets per year

VIII. Inspection and Enforcement

A. Inspections: Inspections are required to ensure that stormwater BMPs are constructed and maintained in accordance with approved designs. Inspections are also required to detect and address illicit discharges to the system. At a minimum, you must conduct:

1. Inspections during construction for erosion and sediment control
2. Inspections during and immediately after construction for proper installation of permanent stormwater control BMPs
3. Ongoing maintenance inspections of completed stormwater BMPs to ensure continued water quality protection
4. A plan to detect and address illicit discharges (including illegal dumping) to the system

Inspections of temporary erosion and sediment controls used during construction should be performed at regular frequencies and after significant storm events.

B. Enforcement: Formal inspection procedures are performed to identify violations of regulations. Some common enforcement tools include:

1. Positive recognition of those complying with regulations
2. Written notification to project manager
3. Stop work orders
4. Withholding permits
5. Performance bonding
6. Action by the locality upon failure of the developer to act, with costs levied against the developer
7. Civil penalties
8. Criminal penalties

IX. Operations and Maintenance

The Phase II minimum control measure for pollution prevention/good housekeeping for municipal Operations requires an operations and maintenance program for your MS4. You must develop this operations and maintenance program with the goal of preventing and reducing pollutants in stormwater runoff from you municipal operations.

A. At a minimum, the maintenance program should include:

1. Training local government employees to prevent or reduce pollutants in stormwater from operations activities
2. Implementing regulations requiring private property owners to maintain their systems if a policy decision is made to require that

B. EPA encourages communities to:

1. Schedule drainage maintenance activities and inspection procedures
2. Dispose of wastes from drainage maintenance activities in a proper manner

C. Typical stormwater management practices:

1. Cleaning catch basins, manholes and outfalls
2. Cleaning pipes and culverts
3. Removing sediment from roadside ditches
4. Controlling vegetation in roadside ditches

5. Sweeping streets
6. Cleaning detention structures
7. Controlling vegetation in above ground detention ponds
8. Repairing and replacing infrastructure
9. Performing inspections
10. Properly disposing of waste from maintenance activities

(Include a map of the MS4 to carry out an effective maintenance program. From this map, an inventory of system components can be created and used to schedule maintenance)

X. Evaluating Your Program

A. *Monitoring your program delivery systems can involve:*

1. Strategic planning
2. Comprehensive planning
3. Tracking the number of capital projects implemented
4. Determining actual maintenance frequencies and production rates
5. Linking goals to outcomes in program evaluation methods
6. Measuring regulatory compliance
7. Achieving public participation goals

B. *Monitoring your program effectiveness can include physical measurements that determine how well your program is meeting its goals. These include:*

1. Stream gauging
2. Water quality sampling and testing
3. Channel bank erosion monitoring
4. Fish habitat/population monitoring
5. Sediment deposition monitoring

XI. Keeping up with Record Keeping

You are required to keep records for at least three years. These records should include information on what your stormwater management program has accomplished, such as:

1. Monitoring information
2. Inspection and enforcement records
3. Your public involvement program
4. Operations and maintenance records
5. Records of capital expenditures for stormwater quality control facilities
6. Monitoring data

XII. Reporting to Appropriate Agencies

You need to submit annual reports to your NPDES permitting authority in the first permit term. The reports should include information on:

1. Status of compliance with your permit
2. Monitoring data
3. Summary of activities to be accomplished the next year

SECTION 210.120: LITTERING ON PUBLIC RIGHTS OF WAY AND PRIVATE REAL PROPERTY

- A. It shall be unlawful for any person to throw or place, or cause to be thrown or placed, any glass, glass bottles, wire, nails, tacks, hedge, cans, garbage, trash, refuse, or rubbish of any kind, nature or description, on the right of way of any public street or in any of the waters in this City, or on the banks of any stream, or on any land or water owned, operated, or leased by the City of Greenwood, any Board, Department, Agency, or Commission thereof, or on any land or water

SECTION 225.040: DISPOSAL OF SOLID WASTE

- A. Solid wastes shall be disposed of at a processing facility or disposal area approved by the City and complying with all requirements of the Missouri Division of Health.
- B. The Director may classify certain wastes as hazardous wastes which will require special handling and shall be disposed of only in a manner acceptable to the Director and which will meet all local, State and Federal regulations.

SECTION 410.180: EROSION AND SEDIMENT CONTROL REGULATIONS

A. *General Provisions.*

A.1. *Purpose.* The purpose of this Section is to control soil erosion on land that is undergoing development for non-agricultural uses and prevent sediment and soil erosion from being transported onto adjacent property and into streams, rivers, lakes, ponds or other areas. The provisions in this Section are intended to do the following:

A.1.a. Preserve the natural terrain and waterways.

A.1.b. Provide a natural community environment.

A.1.c. Prevent soil erosion.

A.1.d. Reduce costly repairs to gullies, washed out fills, water conveyance systems, roads and embankments.

A.2. *Scope of authority.* Any person, firm, corporation or business proposing to develop land within Greenwood shall apply to the City Engineer for approval of required erosion control plans and issuance of a grading permit as specified in these regulations.

A.3. *Implementation.* Erosion and sediment control methods as approved shall be implemented at the beginning of a project before any grading begins unless waived for good cause by the City Engineer.

- B. *Definitions.* For the purposes of this Section, the following definitions shall apply:

ACCELERATED EROSION: Erosion caused by development activities that exceeds the natural processes by which the surface of the land is worn away by the action of water, wind or chemical action.

APPLICANT: A property owner or agent of a property owner who has filed an application for a storm water management permit.

BUILDING: Any structure, either temporary or permanent, having walls and a roof, designed for the shelter of any person, animal or property and occupying more than one hundred (100) square feet of area.

CHANNEL: A natural or artificial watercourse with a definite bed and banks that conducts continuously or periodically flowing water.

DEDICATION: The deliberate appropriation of property by its owner for general public use.

DETENTION: The temporary storage of storm runoff in a storm water management practice with the goals of controlling peak discharge rates and providing gravity settling of pollutants.

DETENTION FACILITY: A detention basin or alternative structure designed for the purpose of temporary storage of stream flow or surface runoff and gradual release of stored water at controlled rates.

DEVELOPER: A person who undertakes land disturbance activities.

DRAINAGE EASEMENT: A legal right granted by a landowner to a grantee allowing the use of private land for storm water management purposes.

EROSION AND SEDIMENT CONTROL PLAN: A plan that is designed to minimize the accelerated erosion and sediment runoff at a site during construction activities.

FEE IN LIEU: A payment of money in place of meeting all or part of the storm water performance standards required by this Section.

HOTSPOT: An area where land use or activities generate highly contaminated runoff, with concentrations of pollutants in excess of those typically found in storm water.

HYDROLOGIC SOIL GROUP (HSG): A Natural Resource Conservation Service classification system in which soils are categorized into four (4) runoff potential groups. The groups range from A soils, with high permeability and little runoff production, to D soils, which have low permeability rates and produce much more runoff.

IMPERVIOUS COVER: Those surfaces that cannot effectively infiltrate rainfall (e.g., building rooftops, pavement, sidewalks, driveways, etc).

INDUSTRIAL STORM WATER PERMIT: A National Pollutant Discharge Elimination System permit issued to a commercial industry or group of industries that regulates the pollutant levels associated with industrial storm water discharges or specifies on-site pollution control strategies.

INFILTRATION: The process of percolating storm water into the subsoil.

INFILTRATION FACILITY: Any structure or device designed to infiltrate retained water to the subsurface. These facilities may be above grade or below grade.

JURISDICTIONAL WETLAND: An area that is inundated or saturated by surface water or ground water at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation.

LAND DISTURBANCE ACTIVITY: Any activity that changes the volume or peak flow discharge rate of rainfall runoff from the land surface. This may include the grading, digging, cutting, scraping, or excavating of soil, placement of fill materials, paving, construction, substantial removal of vegetation, or any activity which bares soil or rock or involves the diversion or piping of any natural or manmade watercourse.

LANDOWNER: The legal or beneficial owner of land, including those holding the right to purchase or lease the land, or any other person holding proprietary rights in the land.

MAINTENANCE AGREEMENT: A legally recorded document that acts as a property deed restriction and which provides for long-term maintenance of storm water management practices.

NON-POINT SOURCE POLLUTION: Pollution from any source other than from any discernible, confined and discrete conveyances and shall include, but not be limited to, pollutants from agricultural, silvicultural, mining, construction, subsurface disposal and urban runoff sources.

OFFSET FEE: A monetary compensation paid to the City for failure to meet pollutant load reduction targets.

OFF-SITE FACILITY: A storm water management measure located outside the subject property boundary described in the permit application for land development activity.

ON-SITE FACILITY: A storm water management measure located within the subject property boundary described in the permit application for land development activity.

RECHARGE: The replenishment of underground water reserves.

REDEVELOPMENT: Any construction, alteration or improvement exceeding square feet in areas where existing land use is high density commercial, industrial, institutional or multi-family residential.

STOP WORK ORDER: An order issued which requires that all construction activity on a site be stopped.

STORM WATER MANAGEMENT: The use of structural or non-structural practices that are designed to reduce storm water runoff pollutant loads, discharge volumes, peak flow discharge rates and detrimental changes in stream temperature that affect water quality and habitat.

STORM WATER RETROFIT: A storm water management practice designed for an existing development site that previously had either no storm water management practice in place or a practice inadequate to meet the storm water management requirements of the site.

STORM WATER RUNOFF: Flow on the surface of the ground, resulting from precipitation.

STORM WATER TREATMENT PRACTICES (STP): Measures, either structural or non-structural, that are determined to be the most effective, practical means of preventing or reducing point source or non-point source pollution inputs to storm water runoff and water bodies.

WATER QUALITY VOLUME (WQV): The storage needed to capture and treat ninety percent (90%) of the average annual storm water runoff volume. Numerically (WQV) will vary as a function of long-term rainfall statistical data.

WATERCOURSE: A permanent or intermittent stream or other body of water, either natural or man-made, which gathers or carries surface water.

C. *Regulations.*

C.1. *Required erosion and sedimentation control plan content*—in addition to the requirements of the City of Greenwood criteria.

C.1.a. No application for development will be approved unless it includes a plan detailing in concept how runoff and associated water quality impacts resulting from the development will be controlled or managed. This plan must be prepared by an individual approved by the City and must indicate whether storm water will be managed on-site or off-site and, if on-site, the general location and type of practices. The plan(s) shall be referred for comment to all other interested agencies, and any comments must be addressed in a final plan. This final plan must be signed by a licensed professional engineer (PE), who will verify that the design of all storm water management practices meet the submittal requirements outlined in code. No building, grading, or sediment control permit shall be issued until a satisfactory final storm water management plan, or a waiver thereof, shall have undergone a review and been approved by the City after determining that the plan or waiver is consistent with the requirements of this Section. The plans shall also include the following information.

C.1.a.(1) *Contact information.* The name, address and telephone number of all persons having a legal interest in the property and the tax reference number and parcel number of the property or properties affected.

C.1.a.(2) *Topographic base map.* A 1" = 200' topographic base map of the site which extends a minimum of fifty (50) feet beyond the limits of the proposed development and indicates existing surface water drainage including streams, ponds, culverts, ditches, and wetlands; current land use including all existing structures; locations of utilities, roads and easements; and significant natural and manmade features not otherwise shown. The 100-year flood line must also be shown on this map.

C.1.a.(3) *Calculations.* Hydrologic and hydraulic design calculations for the pre-development and post-development conditions for the design storms specified in this Section. Such calculations shall include

C.1.a.(3)(a) Description of the design storm frequency, intensity and duration,

C.1.a.(3)(b) Time of concentration,

C.1.a.(3)(c) Soil curve numbers or runoff coefficients,

C.1.a.(3)(d) Peak runoff rates and total runoff volumes for each watershed area,

C.1.a.(3)(e) Infiltration rates, where applicable,

C.1.a.(3)(f) Culvert capacities,

C.1.a.(3)(g) Flow velocities,

C.1.a.(3)(h) Data on the increase in rate and volume of runoff for the design storms referenced in the Storm Water Design Manual, and

C.1.a.(3)(i) Documentation of sources for all computation methods and field test results.

C.1.a.(4) *Soils information.* If a storm water management control measure depends on the hydrologic properties of soils (e.g., infiltration basins), then a soils report shall be submitted. The soils report shall be based on on-site boring logs or soil pit profiles. The number and location of required soil borings or soil pits shall be determined based on what is needed to determine the suitability and distribution of soil types present at the location of the control measure.

C.1.a.(5) *Maintenance and repair plan.* The design and planning of all storm water management facilities shall include detailed maintenance and repair procedures to ensure their continued function. These plans will identify the parts or components of a storm water management facility that need to be maintained and the equipment and skills or training necessary. Provisions for the periodic review and evaluation of the effectiveness of the maintenance program and the need for revisions or additional maintenance procedures shall be included in the plan.

C.1.a.(6) *Landscaping plan.* The applicant must present a detailed plan for management of vegetation at the site after construction is finished, including who will be responsible for the maintenance of vegetation at the site and what practices will be employed to ensure that adequate vegetative cover is preserved. This plan must be prepared by a registered landscape architect or by the soil conservation district.

C.1.a.(7) *Maintenance easements.* The applicant must ensure access to all storm water treatment practices at the site for the purpose of inspection and repair by securing all the maintenance easements needed on a permanent basis. These easements will be recorded with the plan and will remain in effect even with transfer of title to the property.

C.1.a.(8) *Maintenance agreement.* The applicant must execute an easement and an inspection and maintenance agreement binding on all subsequent owners of land served by an on-site storm water management measure in accordance with the specifications of this Section.

C.1.a.(9) *Erosion and sediment control plans for construction of storm water management measures.* The applicant must prepare an erosion and sediment control plan for all construction activities related to implementing any on-site storm water management practices.

C.1.a.(10) *Other environmental permits.* The applicant shall assure that all other applicable environmental permits have been acquired for the site prior to approval of the final storm water design plan.

C.1.b. The proposed phasing of development of the site, including clearing, rough grading, and construction, and final grading and landscaping. Phasing should identify the expected date on which clearing will begin, the estimated duration of exposure of cleared areas, and the sequence of clearing, installation of temporary sediment control measures, installation of storm drainage, paving streets and parking areas, and establishment of temporary and permanent vegetative cover.

The City Engineer may waive specific requirements for the content of submissions upon finding that the information submitted is sufficient to show that the work will comply with the objectives and principles of these regulations. The City Engineer may also, after consultation with the Soil Conservation Service, require a separate erosion and sediment control plan be drawn in order to get greater detail of the site where unusual topography, drainage or other unusual physical conditions exist, or where the development project is so large as to necessitate the need for a separate plan.

C.2. *Sediment and erosion control plan approval.*

C.2.a. The sediment and erosion control plan must define the measures to be taken to meet erosion control principles and standards as defined in Subsection (B)(3) of this Section. The plan must assure that all vegetative practices meet a storm event of one (1) year (frequency) twenty-four (24) hour (duration); (i.e. 2.8 inch rain), or a ten (10) year (frequency) twenty-four (24) hour (duration); (i.e. 5.2 inch rain) for mechanical practices.

C.2.b. *Conservation District comments.* When a plan is submitted by the City Engineer to the Soil and Water Conservation District, the District may make comments and recommendations. All such comments and recommendations shall be made within fifteen (15) days of receipt by the District. Such comments may pertain but need not be limited to:

C.2.b.(1) Erosion and sedimentation control methods.

C.2.b.(2) Soil use limitations.

C.2.b.(3) Environmental considerations.

C.3. Principles and standards.

C.3.a. All excavations, grading or filling shall normally have a finished grade not to exceed a 3.1 (33%) slope. Steeper grades may be approved by the City Engineer if the excavation is through rock or if the excavation or the fill is adequately protected (a designed head wall or toe wall may be required). Permanent safety guards will be constructed in accordance with the appropriate Section(s) of the adopted City Building Code and design criteria.

C.3.b. Where natural vegetation is removed during development, one (1) or more of the following measures shall be implemented:

C.3.b.(1) Debris basins/silt basins.

C.3.b.(2) Silt fencing.

C.3.b.(3) Staked straw bales.

C.3.b.(4) Detention structures.

C.3.b.(5) Diversions.

C.3.b.(6) Other measures as approved by the City Engineer with consultation with the Soil Conservation Service.

Permanent type grasses shall be established, weather permitting, as determined by the City Engineer, when grading or construction has been completed. Work shall be deemed to have been completed if work has ceased for a six (6) month period unless that area is a borrow area as designated on either the preliminary plat or construction plans. Prior to acceptance of any public improvements, permanent type grasses shall be established. Permanent grass must be established at a density to provide erosion control on the site (refer to Subsection (D) of this Section).

C.3.c. Provisions shall be made to accommodate the increased runoff caused by changed soil and surface conditions during and after grading. Unvegetated open channels shall be designed so that gradients result in velocities of five (5) fps (feet per second) or less. Open channels with velocities more than five (5) fps and less than ten (10) fps shall be established in permanent vegetation by use of commercial erosion control blankets or lined with rock riprap or concrete or other suitable materials such as sod as approved by the designated official. Detention basins, diversions, or other appropriate structures shall be constructed to prevent velocities above ten (10) fps.

C.3.d. The adjoining ground to development sites (lots) shall be provided with protection from accelerated and increased surface water, silt from erosion, and any other consequences of erosion during development. Runoff water from developed areas (parking lots, paved sites and buildings) above the area to be developed shall be directed to diversions, detention basins, concrete gutters and/or underground

outlet systems. Sufficiently anchored straw bales may be temporarily substituted with the approval of the designated official.

C.3.e. F.E.M.A. and U.S. Army Corps of Engineers guidelines shall be followed where applicable regarding site development areas designated as floodplains and wetlands.

C.3.f. All lots shall be seeded and mulched at the rates defined below or sodded before an occupancy permit may be issued except that a temporary occupancy permit may be issued by the Building Department in cases of undue hardship because of unfavorable ground conditions.

D. *Inspection And Violation.*

D.1. *Inspections.* By applying for a grading permit, the applicant consents to the City inspecting the proposed development site and all work in progress. The City may require additional erosion and sediment control measures be implemented where existing erosion and sediment control methods are not, or will not, adequately handle drainage conditions. The Soil Conservation Service may be consulted in order to obtain recommended erosion and sediment control measures.

D.2. At the time a building permit or foundation permit is issued, the contractor shall post a performance bond, cash escrow, certified check or other acceptable form of performance security for the amount of one thousand five hundred dollars (\$1,500.00) per lot, or where a builder or contractor is constructing on ten (10) or more lots a performance bond in an amount of at least fifteen thousand dollars (\$15,000.00), in a form acceptable to the Board of Aldermen to secure the performance of any remedial work, including erosion control performed by the City to bring the construction activity into compliance with City ordinances. After final occupancy has been issued, the performance security will be refunded to the contractor or developer.

If it is determined through inspection by City representatives that the development is not proceeding in accordance with City ordinances and erosion control standards stated herein, an enforcement officer or City representative shall immediately notify the permittee and the surety of the nature of the location of the non-compliance by available means, including telephone, paging, certified mail, personal delivery, and posting of the property. The permittee shall immediately commence remedial work and complete the remedial work within forty-eight (48) hours. In the event the permittee shall fail to completely repair or correct the deficiency within three (3) days after notification by the enforcement officer or City representative, the bond and monies deposited with the City Clerk may be deemed forfeited and the City may make use of such monies to make the necessary repairs or control measures. If, during the three (3) day period, the applicant brings the control measure into compliance with the plan or corrects the deficiencies, no action will be taken against the security. The City shall make appropriate charges for labor, materials and equipment for such correction work at rates which shall be posted with the City Clerk and approved by the Board of Aldermen in amounts necessary to reimburse the City for all costs incurred by the City in providing labor, material and equipment to correct said deficiency.

- D.3. *Corrections.* All violations shall be corrected within the time limit set forth by the enforcement officer specified in the issuance of a written notice to correct. All persons failing to comply with such notice shall be deemed in violation of this regulation.
- D.4. *Violations.* In the event of a violation, the enforcement officer shall have the authority to issue a stop work order on construction of all public improvements until compliance with the written notice is achieved. The regulations of the City of Greenwood shall also apply.
- D.5. At the time a building permit or foundation permit is issued, the contractor shall post a performance bond, letter of credit, cash escrow, certified check or other acceptable form of performance security for one thousand five hundred dollars (\$1,500.00) for any remedial work, including erosion control, performed by the City to bring the construction activity into compliance with City ordinances. After final occupancy has been issued, the performance security will be refunded to the contractor or developer.
- D.6. Any person, applicant or contractor performing a land disturbance without posting bond or failing to maintain the erosion or sediment control measures in accordance with the erosion and sediment control plan for the City and the City's adopted standards or working with a revoked or suspended permit, on conviction, shall be punished by a fine of not less than fifty dollars (\$50.00) nor more than five hundred dollars (\$500.00), or by imprisonment in the municipal correctional institution for a period not to exceed six (6) months, or may be punished by both fine and imprisonment; provided that each violation thereof shall be a separate offense for purposes of this Section.

E. *Vegetative Establishment For Urban Development Sites.*

E.1. *Seeding rates:*

E.1.a. *Permanent:*

E.1.a.(1) Turf Type Fescue — 10—12 lbs. of pure live seed per 1,000 square feet.

E.1.a.(2) Turf Type Fescue and Perennial Rye mixture — 10—12 lbs. of pure live seed per 1,000 square feet.

E.1.a.(3) Other seeding mixtures as approved by the Soil Conservation Service.

E.1.b. *Temporary:*

E.1.b.(1) Wheat or Annual Rye — 150 lbs./ac. (3.5 lbs. per 1,000 square feet).

E.1.b.(2) Oats — 120 lbs./ac. (2.75 lbs. per 1,000 square feet).

E.1.b.(3) Other seeding mixtures as approved by the Soil Conservation Service.

E.2. *Seeding periods:*

E.2.a. Fescue or Brome: March 1 to June 1
August 1 to October 1

E.2.b. Wheat or Rye: March 15 to October 15

E.2.c. Oats: March 15 to September 15

E.3. *Mulch rates:* (Required for all permanent seeding)

80—100 lbs. per 1,000 square feet

E.4. *Fertilizer rates:*

E.4.a. Starter Fertilizer: 6—8 lbs. of (16-8-8) per 1,000 square feet.

E.4.b. Lime 700 lbs./ac. ENM (effective neutralizing material as per State evaluation of quarried rock).

E.4.c. Other rates as defined by a current soil test and approved by the Soil Conservation Service.

F. *Design Standards For Vegetated Buffers And Building Setbacks.*

F.1. *General requirements.*

F.1.a. A vegetated buffer for a stream system shall consist of a vegetated strip of land extending along both sides of a stream and its adjacent wetlands, floodplain, and slopes. The vegetated buffer width shall be adjusted to include contiguous, sensitive areas, such as steep slopes or erodible soils, where development or disturbance may adversely affect water quality, streams, wetlands, or other water bodies. This adjustment shall be accomplished by evaluating the potential of a site for impacts that result from runoff, soil erosion and sediment transport.

F.1.b. For those sites where vegetation does not exist, it is acceptable to allow the vegetated buffer to succeed naturally to a wooded state. However, if channel erosion, stream pollution, or habitat degradation exists at that site or has been caused downstream from that site, the director may require planting of the vegetated buffer and any additional water quality protection measures.

The department may post the vegetated buffer.

G. *Vegetated Buffer Standards For Streams, Wetlands And Floodplains.*

G.1. For a first (1st) or second (2nd) order stream, the vegetated buffer shall be measured from the centerline. For all higher order streams, the vegetated buffer shall be measured from the stream bank of the active channel (bank-full flow).

G.2. For a use I or I-P stream, the vegetated buffer shall be the greater of the following:

Seventy-five (75) feet,

G.2.a. Twenty-five (25) feet from the outer wetland boundary, or

G.2.b. Twenty-five (25) feet from the 100-year floodplain reservation or easement boundary.

G.3. For a use III, III-P, IV or TV-P stream (recreational waters), the vegetated buffer shall be the greater of the following:

G.3.a. One hundred (100) feet,

G.3.b. Twenty-five (25) feet from the outer wetland boundary, or

G.3.c. Twenty-five (25) feet from the 100-year floodplain reservation or easement boundary.

G.4. Adjusted vegetated buffer standards and requirements for streams and wetlands with adjacent steep slopes and erodible soils.

G.4.a. A steep slope and erodible soils evaluation shall be conducted in accordance with the evaluation procedures and criteria specified herein or a comparable method approved by the Director for sites containing or adjacent to streams, wetlands or other water bodies where:

G.4.a.(1) Slopes exceed ten percent (10%) within five hundred (500) feet of the streams, wetlands or water bodies;

G.4.a.(2) Soil erodibility K values exceed .24 within five hundred (500) feet of the streams, wetlands or water bodies; or

G.4.a.(3) The vegetative cover within one hundred (100) feet of the streams, wetlands or water bodies is: bare soil; fallow land; crops; active pasture in poor or fair condition; orchard-tree farm in poor or fair condition; brush-weeds in poor condition; or woods in poor condition.

G.4.b. An evaluation report shall be submitted for review to the department. This report shall include, as a minimum, the following:

G.4.b.(1) A plan, at a scale not smaller than 1" = 100', that shows:

G.4.b.(1)(a) Existing topography with contour intervals no greater than five (5) feet. County photogrammetric maps are an acceptable source for preparing existing topography.

G.4.b.(1)(b) Mapped soils as shown in the County soil survey,

G.4.b.(1)(c) Field delineated, marked, and surveyed streams and wetlands,

G.4.b.(1)(d) Existing vegetation,

G.4.b.(1)(e) Existing subdrainage areas of the site, and

G.4.b.(1)(f) Slopes in each subdrainage area segmented into sections of slopes less than or equal to ten percent (10%); eleven (11%) to nineteen percent (19%); and greater than or equal to twenty percent (20%);

G.4.b.(2) All slope analysis data forms;

G.4.b.(3) A summary of findings, including information pertinent to the evaluation of the site; and

G.4.b.(4) A mitigation plan that describes the proposed additional protective measures for those areas where development is allowed with restrictions.

G.4.c. The site shall be evaluated by assessing each segment of each subdrainage area using the evaluation criteria in Table 1. Each segment shall be given a score for slope, slope length, soil erodibility, vegetative cover, and sediment delivery. A total score shall be assigned for each segment. A segment of a subdrainage area with a total score of thirty-five (35) or greater shall be designated as part of the vegetated buffer and no development shall be approved in that segment. A segment with a total score of twenty-five (25) or thirty (30) shall require the application of additional protective measures; however, development shall not be prohibited and that area shall not be part of the vegetated buffer. A segment with a score of twenty (20) or less shall be developed with standard protective measures and that area shall not be part of the vegetated buffer.

Table 1 Evaluation Criteria for Steep Slopes and Erodible Soils			
<i>Factors</i>	<i>Scores</i>		
	<i>High (10)</i>	<i>Medium (5)</i>	<i>Low (0)</i>
Slope (S)		S>20%	10%<S<20%
S<10%			
Slope length (SL)	SL>200'	50'<SL<200'	SL<50'
Soil erodibility (K)	K>0.32	0.24<K<0.32	K<0.24
Vegetative cover	Bare soil, fallow land, crops, active pasture in poor condition, orchard-tree farm in poor condition	Active pasture in fair condition, brush-weeds in poor condition, orchard-tree farm in fair condition, woods in poor condition	Active pasture in good condition, undisturbed meadow, brush-weeds in fair condition, orchard-tree farm in good condition, woods in fair condition
Sediment delivery (distance from downslope limit of disturbance to outer edge of wetlands or top of streambank)	Adjacent to water courses or wetlands (< 100' buffer)	Adjacent to water courses or wetlands (100'—300' buffer)	Not adjacent to water courses or wetlands (>300' buffer)

A. *Standards For Building Setbacks.*

A.1. At a minimum, the primary or principal structure on a parcel or lot shall be set back from the outer edge of the vegetated buffer as follows:

A.1.a. Residential dwellings, thirty-five (35) feet;

A.1.b. Commercial structures, twenty-five (25) feet;

A.1.c. Industrial structures, twenty-five (25) feet.

The setback can include either private or public land or both. Appurtenant or accessory structures including roads and driveways, utilities, recreational facilities, patios, etc., are permitted within the setback area.

B. *Management Requirements For Vegetated Buffers.*

B.1. The vegetated buffer, including wetlands and floodplains, shall be managed to enhance and maximize the unique value of these resources. Management includes specific limitations on alteration of the natural conditions of these resources. The following practices and activities are restricted within the vegetated buffer, except as provided for in forest harvesting operations which are implementing a forest management plan approved by the Missouri Department of Natural Resources, or the County Soil Conservation District, as provided for in surface mining operations which are operating in compliance with a State surface mining permit or as provided for in agricultural operations in accordance with a soil conservation and water quality plan approved by the County Soil Conservation District:

B.1.a. The existing vegetation within the buffer shall not be disturbed except as provided in (b) below. This includes, but is not limited to, disturbance by tree removal, shrub removal, clearing, mowing, burning, spraying and grazing.

B.1.b. Soil disturbance shall not take place within the vegetated buffer by grading, stripping of topsoil, plowing, cultivating, or other practices.

B.1.c. Filling or dumping shall not occur within the vegetated buffer.

B.1.d. Except as permitted by the department, the vegetated buffer shall not be drained by ditching, underdrains, or other drainage systems.

B.1.e. Pesticides shall not be stored, used or applied within the vegetated buffer, except for the spot spraying of noxious weeds consistent with the recommendations of the University of Missouri Extension Service.

B.1.f. Animals shall not be housed, grazed, or otherwise maintained within the vegetated buffer.

B.1.g. Motorized vehicles shall not be stored or operated within the vegetated buffer, except for maintenance and emergency use approved by the City.

B.1.h. Materials shall not be stored within the vegetated buffer.

The following structures, practices and activities are permitted in the vegetated buffer:

Roads, bridges, trails, storm drainage, storm water management facilities, and utilities approved by the department are permitted within the vegetated buffer provided that an alternatives analysis has clearly demonstrated that no other feasible alternative exists and that minimal disturbance will take place. These structures shall be located, designed, constructed and maintained to provide maximum erosion protection, to have

the least adverse effects on wildlife, aquatic life and their habitats, and to maintain hydrologic processes and water quality. Following any disturbance, the impacted area shall be restored.

B.1.i. Stream restoration projects, facilities and activities approved by the department are permitted within the vegetated buffer.

B.1.j. Scientific studies approved by the department, including water quality monitoring and stream gauging, are permitted within the vegetated buffer.

B.1.k. Horticulture practices may be used to maintain the health of individual trees in the vegetated buffer.

B.1.l. Individual trees in the vegetated buffer may be removed which are in danger of falling, causing damage to dwellings or other structures, or causing the blockage of streams.

B.1.m. Other timber-cutting techniques approved by the department may be undertaken within the vegetated buffer under the advice and guidance of the State Departments of Agriculture and Natural Resources if necessary to preserve the vegetation from extensive pest infestation, disease infestation, or threat from fire.

C. *Conflict With Other Regulations.* Where the standards and management requirements for vegetated buffers are in conflict with other laws, regulations and policies regarding streams, steep slopes, erodible soils, wetlands, floodplains, forest harvesting, surface mining, land disturbance activities, development in critical areas, or other environmental protection measures, the more restrictive shall apply.

In addition to compliance with the regulations herein, all proposed activities, projects, and developments within a 100-year floodplain shall also comply with the regulations and requirements of the Departments of Public Works and Permits and Licenses.

D. *Public And Private Improvements Of Development.*

D.1. In addition, the applicant shall provide improvements to the vegetated buffer and stream system in order to abate and correct:

D.1.a. Water pollution,

D.1.b. Erosion and sedimentation of stream channels, and

D.1.c. Degradation of aquatic and riparian habitat; and

D.2. The County may participate in the cost of any such improvement.

D.3. For any vegetated buffer or vegetated buffer easement:

D.3.a. Access easements shall be dedicated by the applicant to the County, of which the number, locations, and design standards shall be determined by the department; and

D.3.b. Permanent boundary markers, in the form of monuments, shall be installed by the applicant upon request of the department.

E. *Enforcement Procedures.*

E.1. The Mayor or his designee is authorized and empowered to enforce these regulations in accordance with the procedures of this Section.

E.2. If, upon inspection or investigation, the Mayor or his designee is of the opinion that any person has violated any provision of these regulations, order, or permit condition promulgated or issued under these regulations, he shall with reasonable promptness issue a correction notice to the person on such form as prescribed and approved by the Director. Each such notice shall be in writing and shall describe with particularity the nature of the violation, including a reference to the provision of these regulations, order, or permit condition alleged to have been violated. In addition, the notice shall fix a reasonable time for the abatement and correction of the violation.

E.3. If, after the time fixed for abatement and correction of the violation has expired pursuant to (2) above, an inspection by the Mayor or his designee determines that the violation or violations continue, the Mayor or his designee shall issue a citation by certified mail to the person who is in violation on such form as prescribed and approved by the Director. Each citation shall be in writing and shall describe with particularity the nature of the violation, including a reference to the provision. (Ord. No. 99-03-01-02 §1, 4-5-99; Ord. No. 2001-04-03-03 §1(r—s), 6-4-01; Ord. No. 2002-01-17-01 §1, 1-17-02)

SECTION 705.020: USE OF PUBLIC SEWERS REQUIRED—PENALTY FOR UNLAWFUL ACTS

A. It shall be unlawful for any person to place, deposit, or permit to be deposited in any unsanitary manner on public or private property within the City of Greenwood, or in any area under the jurisdiction of said City, any human or animal excrement, garbage, or other objectionable waste.

B. It shall be unlawful to discharge to any natural outlet within the City of Greenwood, or in any area under the jurisdiction of said City, any sewage or other polluted waters, except where suitable treatment has been provided in accordance with subsequent provisions of this Article.

C. Except as hereinafter provided, it shall be unlawful to construct or maintain any privy, privy vault, septic tank, cesspool, or other facility intended or used for the disposal of sewage.

D. The owner of all houses, buildings, or properties used for human employment, recreation, or other purposes, situated within the City and abutting on any street, alley, or right of way in which there is now located or may in the future be located a public sanitary or combined sewer of the City, is hereby required at his/her expense to install suitable toilet facilities therein, and to connect such facilities directly with the proper public sewer in accordance with the provisions of this Article, within ninety (90) days after date of official notice to do

so, provided that said public sewer is within one hundred (100) feet or 30.5 meters of the property line.

- E. *Penalty.* Violation of this Section shall be punished as provided in Section 100.050 of this Code. (Ord. No. 5.100 Art. II, 9-14-81)

SECTION 705.050: TAMPERING WITH SEWAGE WORKS

No unauthorized person shall maliciously, willfully, or negligently break, damage, destroy, uncover, deface, or tamper with any structure, appurtenance, or equipment which is part of the Sewage Works. (Ord. No. 5.100 Art. V, 9-14-81)

SECTION 705.060: USE AND UTILIZATION OF PUBLIC SEWERS

- A. No person shall discharge or cause to be discharged any storm water, surface water, groundwater run-off, subsurface drainage, including interior and exterior foundation drains, uncontaminated cooling water, or unpolluted industrial process waters to any sanitary sewer.
- B. Storm water and all other unpolluted drainage shall be discharged to such sewers as are specifically designated as combined sewers or storm sewers, or to a natural outlet approved by the Superintendent. Industrial cooling water or unpolluted process waters may be discharged on approval of the Superintendent, to a storm sewer, combined sewer, or natural outlet.
- C. No person shall discharge or cause to be discharged any of the following described waters or wastes to any public sewers:
1. Any gasoline, benzene, naphtha, fuel oil, or other flammable or explosive liquid, solid, or gas.
 2. Any waters or wastes containing toxic or poisonous solids, liquids, or gases in sufficient quantity, either singly or by interaction with other wastes, to injure or interfere with any sewage treatment process, constitute a hazard to humans or animals, create a public nuisance, or create any hazard in the receiving waters of the sewage treatment plant, including but not limited to cyanides in excess of two (2) mg/l as CN in the wastes as discharged to the public sewer.
 3. Any waters or wastes having a pH lower than 5.5, or having any other corrosive property capable of causing damage or hazard to structures, equipment, and personnel of the Sewage Works.
 4. Solid or viscous substances in quantities or of such size capable of causing obstruction to the flow in sewers, or other interference with the proper operation of the Sewage Works such as, but not limited to, ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, wood, unground garbage, whole blood, paunch manure, hair and fleshings, entrails and paper dishes, cups, mild containers, etc., either whole or ground by garbage grinders.
 5. Any waters or wastes having (1) a five (5) day BOD greater than three hundred (300) parts per million by weight, or (2) containing more than three hundred fifty (350) parts per million by weight of suspended solids, or (3) having an average daily flow greater than two percent (2%) of the average sewage flow of the City, shall be subject to the

review of the Superintendent. Where necessary in the opinion of the Superintendent, the owner shall provide, at his/her expense, such preliminary treatment as may be necessary to (1) reduce the biochemical oxygen

demand to three hundred (300) parts per million by weight, or (2) reduce the suspended solids to three hundred fifty (350) parts per million by weight, or (3) control the quantities and rates of discharge of such waters or wastes. Plans, specifications, and any other pertinent information relating to proposed preliminary treatment facilities shall be submitted for the approval of the Superintendent and no construction of such facilities shall be commenced until said approval are obtained in writing.

- D. No person shall discharge or cause to be discharged the following described substances, materials, waters, or wastes if it appears likely in the opinion of the Superintendent that such wastes can harm either the sewers, sewage treatment process, or equipment, have an adverse effect on the receiving stream, or can otherwise endanger life, limb, public property, or constitute a nuisance. In forming his/her opinion as to the acceptability of these waters, the Superintendent will give consideration to such factors as the quantities of subject wastes in relation to flows and velocities in the sewers, materials of construction of the sewers, nature of the sewage treatment process, capacity of the sewage treatment plant, degree of treatability of wastes in the sewage treatment plant, and other pertinent factors. The substances prohibited are:
1. Any liquid or vapor having a temperature higher than one hundred fifty degrees Fahrenheit (150°F) (65°C).
 2. Any water or waste containing fats, wax, grease, or oils, whether emulsified or not, in excess of one hundred (100) mg/l or containing substances which may solidify or become viscous at temperatures between thirty-two degrees (32°F) and one hundred fifty degrees Fahrenheit (150°F) (0 and 65°C).
 3. Any garbage that has been properly shredded. The installation and operation of any garbage grinder equipped with a motor of three-fourths (3/4) horsepower (0.76 hp metric) or greater shall be subject to the review and approval of the Superintendent.
 4. Any waters or wastes containing strong acid iron pickling wastes, or concentrated plating solutions whether neutralized or not.
 5. Any waters or wastes containing iron, chromium, copper, zinc, and similar objectionable or toxic substances; or wastes exerting an excessive chlorine requirement, to such degree that any such material received in the composite sewage at the Sewage Treatment Works exceeds the limits established by the Superintendent for such materials.
 6. Any waters or wastes containing phenols or other taste-or-odor-producing substances, in such concentrations exceeding limits which may be established by the Superintendent as necessary, after treatment of the composite sewage, to meet the requirements of State, Federal or other public agencies of jurisdiction for such discharge to the receiving waters.

7. Any radioactive wastes or isotopes of such half-life or concentration as may exceed limits established by the Superintendent in compliance with applicable State or Federal regulations.
 8. Any waters or wastes having a pH in excess of 9.5.
 9. Materials which exert or cause:
 - a. Unusual concentrations of inert suspended solids (such as, but not limited to, Fullers earth, lime slurries, and lime residues) or of dissolved solids (such as, but not limited to, sodium chloride or sodium sulfate).
 - b. Excessive discoloration (such as, but not limited to, dye wastes and vegetable tanning solutions).
 - c. Unusual BOD, chemical oxygen demand, or chlorine requirements in such quantities as to constitute a significant load on the Sewage Treatment Works.
 - d. Unusual volume of flow or concentration of wastes constituting "slugs" as defined herein.
 10. Waters or wastes containing substances which are not amenable to treatment or reduction by the sewage treatment processes employed, or are amenable to treatment only to such degree that the sewage treatment plant effluent cannot meet the requirements of other agencies having jurisdiction over discharge to the receiving waters.
- E. If any waters or wastes are discharged, or are proposed to be discharged to the public sewers, which waters contain the substances or possess the characteristics enumerated in Subsection (D) of this Section, and which in the judgment of the Superintendent, may have a deleterious effect upon the Sewage Works, processes, equipment or receiving waters, or which otherwise create a hazard to life to constitute a public nuisance, the Superintendent may:
1. Reject the wastes,
 2. Require pretreatment to an acceptable condition for discharge to the public sewers,
 3. Require control over the quantities and rates of discharge, and/or
 4. Require payment to cover the added cost of handling and treating the wastes not covered by existing taxes or sewer charges under the provisions of Subsection (J) of this Section.

If the Superintendent permits the pretreatment or equalization of waste flows, the design and installation of the plants and equipment shall be subject to the review and approval of the Superintendent, and subject to the requirements of all applicable codes, ordinances and laws.

- F. Grease, oil, and sand interceptors shall be provided when in the opinion of the Superintendent, they are necessary for the proper handling of liquid wastes containing grease in excessive amounts, or any flammable wastes, sand, or other harmful ingredients; except that such interceptors shall not be required for private living quarters or dwelling units. All

interceptors shall be of a type and capacity approved by the Superintendent, and shall be located as to be readily and easily accessible for cleaning and inspection.

- G. Where preliminary treatment of flow-equalizing facilities are provided for any waters or wastes, they shall be maintained continuously in satisfactory and effective operation by the owner at his/her expense.
- H. When required by the Superintendent, the owner of any property serviced by a building sewer carrying industrial wastes shall install a suitable control manhole together with such necessary meters and other appurtenances in the building sewer to facilitate observation, sampling, and measurement of the wastes. Such manhole, when required, shall be accessibly and safely located, and shall be constructed in accordance with plans approved by the Superintendent. The manhole shall be installed by the owner at his/her expense, and shall be maintained by him/her so as to be safe and accessible at all times.
- I. All measurements, tests, and analyses of the characteristics of waters and wastes to which reference is made in this Section shall be determined in accordance with the latest edition of "Standard Methods for the Examination of Water and Wastewater," published by the American Public Health Association, and shall be determined at the control manhole provided, or upon suitable samples taken at said control manhole. In the event that no special manhole has been required, the control manhole shall be considered to be the nearest downstream manhole in the public sewer to the point at which the building sewer is connected. Sampling shall be carried out by customarily accepted methods to reflect the effect of constituents upon the Sewage Works and to determine the existence of hazards to life, limb, and property. (The particular analyses involved will determine whether a twenty-four (24) hour composite of all outfalls of a premise is appropriate or whether a grab sample or samples should be taken. Normally, but not always, BOD and suspended solids analyses are obtained from twenty-four (24) hour composites of all outfalls whereas pH's are determined from periodic grab samples).
- J. No statement contained in this Section shall be construed as preventing any special agreement or arrangement between the City and any industrial concern whereby an industrial waste of unusual strength character may be accepted by the City for treatment, subject to payment therefore, by the industrial concern. (Ord. No. 5.100 Art. VI, 9-14-81)

Missouri's Phase II Storm Water Communities

Airport Drive, Village of	Clayton	Hanley Hills, Village Of	Mexico	Rolla
Andrew County	Cole County	Hannibal	Moberly	Sedalia
Arnold	Columbia	Hazelwood	Moline Acres	Shrewsbury
Ballwin	Cool Valley	Herculaneum	Neosho	Sikeston
Battlefield	Cottleville	Holts Summit	Newton County	Springfield*
Bellefontaine Neighbors	Country Club, Village of	Independence*	Nixa	St Charles
Bel-Nor, Village Of	Country Club Hills	Jackson city	Normandy	St. Ann
Bel-Ridge, Village Of	Crestwood	Jackson County (Salem E)	North Kansas City	St. Charles County
Belton	Creve Coeur	Jasper County	Northwoods	St. George
Berkeley	Crystal City	Jefferson City	Norwood Court, Town of	St. John
Black Jack	Dardenne Prairie	Jefferson County	Oakland	St. Joseph
Blue Springs	Dellwood	Jennings	Oaks, Village of	St. Louis (MSD)
Boone County	Des Peres	Joplin	Oakview, Village of	St. Louis County
Breckenridge Hills	Duenweg	Kansas City*	Oakwood, Village of	St. Martins
Brentwood	Duquesne	Kennett	O'Fallon	St. Paul
Bridgeton	Ellisville	Kirksville	Olivette	St. Peters
Buchanan County	Excelsior Springs	Kirkwood	Overland	Sugar Creek
Byrnes Mill	Farmington	Ladue	Ozark	Sunset Hills
Callaway County	Fenton	Lake Lotawana	Pagedale	Town And Country
Calverton Park, Village of	Ferguson	Lake St. Louis	Parkville	Valley Park
Cape Girardeau	Festus	Lake Waukomis	Pevely	Vinita Park
Carl Junction	Florissant	Lakeshire	Platte County	Warrensburg
Carterville	Frontenac	Leawood, Village of	Pleasant Valley	Warson Woods
Carthage	Fulton	Lebanon	Poplar Bluff	Washington
Cass County	Gladstone	Lee's Summit	Randolph	Weatherby Lake
Charlack	Glendale	Liberty	Raymore	Webb City
Chesterfield	Grain Valley	Manchester	Raytown	Webster Groves
Christian County	Grandview	Marborough, Village of	Richmond Heights	Weldon Spring
Clarkson Valley	Green Park	Marshall	Riverside	Wentzville
Clay County	Greene County	Maryland Heights	Riverview, Village Of	West Plains
Claycomo, Village of	Greenwood	Maryville	Rock Hill	Wildwood
				Winchester
				Woodson Terrace

*Three of these communities came in under Phase I. Communities may be added to or removed from this list after further review. This list is also subject to change upon completion of the 2010 U.S. Census.

Revised April 17, 2006